

MonoMethyl Hydrazine Specifications & DOT Shipping Information



CHARACTERISTIC	PROCURED/DELIVERED	DELIVERED (SHUTTLE ONLY)
SPECIFICATION:	MIL-PRF-27404C	SE-S-0073, Table 6.3-9
MMH assay	98.3% by wt (min)	98.0% by wt (min)
Water (plus soluble impurities)	1.5% by wt (max)	2.0% by wt (max)
Particulate	10 mg/liter (max)	N/A
Density at 77° F (25 °C)	N/A	Engineering information only
Nonvolatile residue	N/A	10 mg/liter (max)

Note: If trichlorotrifluoroethane (Solvent-113) has been used or is suspected of being used in OMS/RCS servicing GSE, solder specimen tests are required prior to servicing Orbiter (see File III OMRSD V42, General Requirement 7.2.2).

Note: There are no JBOSC filter requirements of MMH. However, 1.0-micron absolute filters are used while used when filling containers ([cylinders](#) and [GPTUs](#)).

Usage & Other Data: MMH is chemically N₂H₃ (CH₃). It is a hypergolic (spontaneous ignition without an igniter) fuel when used with nitrogen tetroxide oxidizers. It is used on the Shuttle OMS/RCS systems and many spacecraft equipped with bi-propellant propulsion systems. MMH is available in KSC/CCAFS or vendor 2500-gallon [PEI tankers](#) (usually direct delivered to Shuttle pad RSV's), in KSC/CCAFS 500-gallon [GPTU's](#), or various [DOT4BW cylinders](#).

49 CFR

172.101 Hazardous Materials Table

Sym-bols	Hazardous material descriptions & proper shipping names	Hazard Class or Division	Identifi-cation numbers	PG	Label Codes	Special Provision	Packaging (173.***)			Quantity Limitations		Vessel Stowage	
							Excep-tions	Non Bulk	Bulk	Passenger aircraft/ rail	Cargo aircraft only	Loca-tion	Other

DOT Hazardous Material Codes and Regulations will explain the letters and numbers.

Sample Markings:

Methyl-	6.1	UN1244	I	6.1, 1,	Packaging	Quantity	Vessel
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					B7, B9, B14, B30, B72, B77, N34, T38, T43, T44	(173.***)			Limitations		Stowage	
	hydrazine			3, 8		None	226	244	Forbidden	Forbidden	D	21, 40, 49, 100



Markings for a "bulk container" (over 119 gallon capacity) with 12"-sided placards. An authorized variance would have the identification number replace the words on the primary hazard placard (with the number at the bottom corner). Non-bulk containers would use the similar 3"-sided labels and have "UN(ID#)" nearby. The proper shipping name would also appear near the labels or placards. If the container is covered by a DOT Exemption, the number (DOT-E-xxxxx) would also appear on the container. Consult your local DOT-markings experts for clarifications.



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